#3

OIPE

RAW SEQUENCE LISTING DATE: 01/23/2002
PATENT APPLICATION: US/10/038,694 TIME: 19:03:07

Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

ENTERED

```
      <110> APPLICANT: Dixon, Eric
            Hutchins, Jeff T.
            Kuettner, Klaus E.
            Schmid, Thomas M.
            Schumacher, Barbara L.
            Su, Jui-Lan
      <120> TITLE OF INVENTION: SUPERFICIAL ZONE PROTEIN AND METHODS OF
            MAKING AND USING SAME
      <130> FILE REFERENCE: 07083.0008U5
C--> <140> CURRENT APPLICATION NUMBER: US/10/038,694
C--> <141> CURRENT FILING DATE: 2001-12-31
      <150> PRIOR APPLICATION NUMBER: 60/258,920
      <151> PRIOR FILING DATE: 2000-12-29
      <160> NUMBER OF SEQ ID NOS: 11
      <170> SOFTWARE: FastSEQ for Windows Version 4.0
      <210> SEQ ID NO: 1
      <211> LENGTH: 6
      <212> TYPE: PRT
      <213> ORGANISM: Artificial Sequence
      <220> FEATURE:
      <223> OTHER INFORMATION: Description of Artificial Sequence; note =
            synthetic construct
      <400> SEQUENCE: 1
Asp Glu Ala Gly Ser Gly
 1               5
      <210> SEQ ID NO: 2
      <211> LENGTH: 188
      <212> TYPE: PRT
      <213> ORGANISM: Artificial Sequence
      <220> FEATURE:
      <223> OTHER INFORMATION: Description of Artificial Sequence; note =
            synthetic construct
      <400> SEQUENCE: 2
Met Ala Trp Lys Thr Leu Pro Ile Tyr Leu Leu Leu Leu Ser Val
 1               5                  10                  15
Phe Val Ile Gln Gln Val Ser Ser Gln Asp Leu Ser Ser Cys Ala Gly
            20                  25                  30
Arg Cys Gly Glu Gly Tyr Ser Arg Asp Ala Thr Cys Asn Cys Asp Tyr
        35                  40                  45
Asn Cys Gln His Tyr Met Glu Cys Cys Pro Asp Phe Lys Arg Val Cys
    50                  55                  60
Thr Ala Glu Leu Ser Cys Lys Gly Arg Cys Phe Glu Ser Phe Glu Arg
65                  70                  75                  80
```

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Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

```
Gly Arg Glu Cys Asp Cys Asp Ala Gln Cys Lys Lys Tyr Asp Lys Cys
                85                  90                  95
Cys Pro Asp Tyr Glu Ser Phe Cys Ala Glu Val Lys Asp Asn Lys Lys
            100                 105                 110
Asn Arg Thr Lys Lys Lys Pro Thr Pro Lys Pro Pro Val Val Asp Glu
        115                 120                 125
Ala Gly Ser Gly Leu Asp Asn Gly Asp Phe Lys Val Thr Thr Pro Asp
    130                 135                 140
Thr Ser Thr Thr Gln His Asn Lys Val Ser Thr Ser Pro Lys Ile Thr
145                 150                 155                 160
Thr Ala Lys Pro Ile Asn Pro Arg Pro Gln Ser Ser Pro Asn Ser Asp
                165                 170                 175
Thr Ser Lys Glu Thr Ser Leu Thr Val Asn Lys Glu
            180                 185
<210> SEQ ID NO: 3
<211> LENGTH: 538
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Description of Artificial Sequence; note =
      synthetic construct
<400> SEQUENCE: 3
Pro Thr Thr Ile His Lys Ser Pro Asp Glu Ser Thr Pro Glu Leu Ser
 1               5                  10                  15
Ala Glu Pro Thr Pro Lys Ala Leu Glu Asn Ser Pro Lys Glu Pro Gly
            20                  25                  30
Val Pro Thr Thr Lys Thr Pro Ala Ala Thr Lys Pro Glu Met Thr Thr
        35                  40                  45
Thr Ala Lys Asp Lys Thr Thr Glu Arg Asp Leu Arg Thr Thr Pro Glu
    50                  55                  60
Thr Thr Thr Ala Ala Pro Lys Met Thr Lys Glu Thr Ala Thr Thr Thr
65                  70                  75                  80
Glu Lys Thr Thr Glu Ser Lys Ile Thr Ala Thr Thr Thr Gln Val Thr
                85                  90                  95
Ser Thr Thr Thr Gln Asp Thr Thr Pro Phe Lys Ile Thr Thr Leu Lys
            100                 105                 110
Thr Thr Leu Ala Pro Lys Val Thr Thr Thr Lys Lys Thr Ile Thr Thr
        115                 120                 125
Thr Glu Ile Met Asn Lys Pro Glu Glu Thr Ala Lys Pro Lys Asp Arg
    130                 135                 140
Ala Thr Asn Ser Lys Ala Thr Thr Pro Lys Pro Gln Lys Pro Thr Lys
145                 150                 155                 160
Ala Pro Lys Lys Pro Thr Ser Thr Lys Lys Pro Lys Thr Met Pro Arg
                165                 170                 175
Val Arg Lys Pro Lys Thr Thr Pro Thr Pro Arg Lys Met Thr Ser Thr
            180                 185                 190
Met Pro Glu Leu Asn Pro Thr Ser Arg Ile Ala Glu Ala Met Leu Gln
        195                 200                 205
Thr Thr Thr Arg Pro Asn Gln Thr Pro Asn Ser Lys Leu Val Glu Val
```

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PATENT APPLICATION: US/10/038,694 TIME: 19:03:07

Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

```
110     210                 215                 220
111 Asn Pro Lys Ser Glu Asp Ala Gly Gly Ala Glu Gly Glu Thr Pro His
112 225                 230                 235                 240
113 Met Leu Leu Arg Pro His Val Phe Met Pro Glu Val Thr Pro Asp Met
114                 245                 250                 255
115 Asp Tyr Leu Pro Arg Val Pro Asn Gln Gly Ile Ile Ile Asn Pro Met
116             260                 265                 270
117 Leu Ser Asp Glu Thr Asn Ile Cys Asn Gly Lys Pro Val Asp Gly Leu
118         275                 280                 285
119 Thr Thr Leu Arg Asn Gly Thr Leu Val Ala Phe Arg Gly His Tyr Phe
120     290                 295                 300
121 Trp Met Leu Ser Pro Phe Ser Pro Pro Ser Pro Ala Arg Arg Ile Thr
122 305                 310                 315                 320
123 Glu Val Trp Gly Ile Pro Ser Pro Ile Asp Thr Val Phe Thr Arg Cys
124                 325                 330                 335
125 Asn Cys Glu Gly Lys Thr Phe Phe Phe Lys Asp Ser Gln Tyr Trp Arg
126             340                 345                 350
127 Phe Thr Asn Asp Ile Lys Asp Ala Gly Tyr Pro Lys Pro Ile Phe Lys
128         355                 360                 365
129 Gly Phe Gly Gly Leu Thr Gly Gln Ile Val Ala Ala Leu Ser Thr Ala
130     370                 375                 380
131 Lys Tyr Lys Asn Trp Pro Glu Ser Val Tyr Phe Phe Lys Arg Gly Gly
132 385                 390                 395                 400
133 Ser Ile Gln Gln Tyr Ile Tyr Lys Gln Glu Pro Val Gln Lys Cys Pro
134                 405                 410                 415
135 Gly Arg Arg Pro Ala Leu Asn Tyr Pro Val Tyr Gly Glu Met Thr Gln
136             420                 425                 430
137 Val Arg Arg Arg Arg Phe Glu Arg Ala Ile Gly Pro Ser Gln Thr His
138         435                 440                 445
139 Thr Ile Arg Ile Gln Tyr Ser Pro Ala Arg Leu Ala Tyr Gln Asp Lys
140     450                 455                 460
141 Gly Val Leu His Asn Glu Val Lys Val Ser Ile Leu Trp Arg Gly Leu
142 465                 470                 475                 480
143 Pro Asn Val Val Thr Ser Ala Ile Ser Leu Pro Asn Ile Arg Lys Pro
144                 485                 490                 495
145 Asp Gly Tyr Asp Tyr Tyr Ala Phe Ser Lys Asp Gln Tyr Tyr Asn Ile
146             500                 505                 510
147 Asp Val Pro Ser Arg Thr Ala Arg Ala Ile Thr Thr Arg Ser Gly Gln
148         515                 520                 525
149 Thr Leu Ser Lys Val Trp Tyr Asn Cys Pro
150     530                 535
152 <210> SEQ ID NO: 4
153 <211> LENGTH: 3
154 <212> TYPE: PRT
155 <213> ORGANISM: Artificial Sequence
157 <220> FEATURE:
158 <223> OTHER INFORMATION: Description of Artificial Sequence; note =
159       synthetic construct
161 <221> NAME/KEY: VARIANT
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RAW SEQUENCE LISTING DATE: 01/23/2002
PATENT APPLICATION: US/10/038,694 TIME: 19:03:07

Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

<222> LOCATION: 2
<223> OTHER INFORMATION: Xaa is any amino acid except Pro
<221> NAME/KEY: VARIANT
<222> LOCATION: 3
<223> OTHER INFORMATION: Xaa is either Thr or Ser
<400> SEQUENCE: 4
Asn Xaa Xaa
1
<210> SEQ ID NO: 5
<211> LENGTH: 488
<212> TYPE: DNA
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Description of Artificial Sequence; note = synthetic construct
<400> SEQUENCE: 5
atgcatgaaa cattccatta ctgtgttctg tgttgtttct gatcacaatt tatccaaatt 60
atcagcgtga ggagagtggg agggatttag gatccactga acgtgttaaa cgtcacatac 120
tgggtgtgcc tgtttaagga gctgactcgg gcttccgtaa ggcgcgcttg atcctcggag 180
ggggggtgg acgcgcgcca agtagaatat acagtgtgtc cgttagaggt ttctgtgcag 240
aagtaaaaga taacaagaag aacagaacta aaaagaaacc tacccccaaa ccaccagttg 300
tagatgaagc tggaagtgga ttggacaatg gtgacttcaa ggtcacaact cctgacacgt 360
ctaccaccca acacaataaa gtcagcacat ctcccaagat cacaacagca aaaccaataa 420
atcccagacc ccagtcttca cctaattctg atacatctaa agagacgtct ttgacagtga 480
ataaagag 488
<210> SEQ ID NO: 6
<211> LENGTH: 1620
<212> TYPE: DNA
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Description of Artificial Sequence; note = synthetic construct
<400> SEQUENCE: 6
cctaccacta tccacaaaag ccctgatgaa tcaactcctg agctttctgc agaacccaca 60
ccaaaagctc ttgaaaacag tcccaaggaa cctggtgtac ctacaactaa gactcctgca 120
gcgactaaac ctgaaatgac tacaacagct aaagacaaga caacagaaag agacttacgt 180
actacacctg aaactacaac tgctgcacct aagatgacaa aagagacagc aactacaaca 240
gaaaaaacta ccgaatccaa aataacagct acaaccacac aagtaacatc taccacaact 300
caagatacca caccattcaa aattactact cttaaaacaa ctactcttgc acccaaagta 360
actacaacaa aaaagacaat tactaccact gagattatga acaaacctga agaaacagct 420
aaaccaaaag acagagctac taattctaaa gcgacaactc ctaaacctca aaagccaacc 480
aaagcaccca aaaaacccac ttctaccaaa aagccaaaaa caatgcctag agtgagaaaa 540
ccaaagacga caccaactcc ccgcaagatg acatcaacaa tgccagaatt gaaccctacc 600
tcaagaatag cagaagccat gctccaaacc accaccagac ctaaccaaac tccaaactcc 660
aaactagttg aagtaaatcc aaagagtgaa gatgcaggtg gtgctgaagg agaaacacct 720
catatgcttc tcaggcccca tgtgttcatg cctgaagtta ctcccgacat ggattactta 780
ccgagagtac ccaatcaagg cattatcatc aatcccatgc tttccgatga gaccaatata 840
tgcaatggta agccagtaga tggactgact actttgcgca atgggacatt agttgcattc 900
cgaggtcatt atttctggat gctaagtcca ttcagtccac catctccagc tcgcagaatt 960

RAW SEQUENCE LISTING DATE: 01/23/2002
PATENT APPLICATION: US/10/038,694 TIME: 19:03:07

Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

```
219 actgaagttt ggggtattcc ttcccccatt gatactgttt ttactaggtg caactgtgaa    1020
220 ggaaaaactt tcttctttaa ggattctcag tactggcgtt ttaccaatga tataaaagat    1080
221 gcagggtacc ccaaaccaat tttcaaagga tttggaggac taactggaca aatagtggca    1140
222 gcgctttcaa cagctaaata taagaactgg cctgaatctg tgtatttttt caagagaggt    1200
223 ggcagcattc agcagtatat ttataaacag gaacctgtac agaagtgccc tggaagaagg    1260
224 cctgctctaa attatccagt gtatggagaa atgacacagg ttaggagacg tcgctttgaa    1320
225 cgtgctatag gaccttctca aacacacacc atcagaattc aatattcacc tgccagactg    1380
226 gcttatcaag acaaaggtgt ccttcataat gaagttaaag tgagtatact gtggagagga    1440
227 cttccaaatg tggttacctc agctatatca ctgcccaaca tcagaaaacc tgacggctat    1500
228 gattactatg ccttttctaa agatcaatac tataacattg atgtgcctag tagaacagca    1560
229 agagcaatta ctactcgttc tgggcagacc ttatccaaag tctggtacaa ctgtccttag    1620
231 <210> SEQ ID NO: 7
232 <211> LENGTH: 24
233 <212> TYPE: DNA
234 <213> ORGANISM: Artificial Sequence
236 <220> FEATURE:
237 <223> OTHER INFORMATION: Description of Artificial Sequence; note =
238       synthetic construct
240 <400> SEQUENCE: 7
241 atggcatgga aaacacttcc catt                                          24
243 <210> SEQ ID NO: 8
244 <211> LENGTH: 24
245 <212> TYPE: DNA
246 <213> ORGANISM: Artificial Sequence
248 <220> FEATURE:
249 <223> OTHER INFORMATION: Description of Artificial Sequence; note =
250       synthetic construct
252 <400> SEQUENCE: 8
253 ctaaggacag ttgtaccaga cttt                                          24
255 <210> SEQ ID NO: 9
256 <211> LENGTH: 4
257 <212> TYPE: PRT
258 <213> ORGANISM: Artificial Sequence
260 <220> FEATURE:
261 <223> OTHER INFORMATION: Description of Artificial Sequence; note =
262       synthetic construct
264 <400> SEQUENCE: 9
265 Phe Ala Cys Glu
266  1
268 <210> SEQ ID NO: 10
269 <211> LENGTH: 8
270 <212> TYPE: PRT
271 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
274 <223> OTHER INFORMATION: Description of Artificial Sequence; note =
275       synthetic construct
277 <400> SEQUENCE: 10
278 Val Lys Asp Asn Lys Lys Asn Arg
279  1               5
```

Use of n and/or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY DATE: 01/23/2002
PATENT APPLICATION: US/10/038,694 TIME: 19:03:08

Input Set : A:\07083.0008U5.SEQ.TXT
Output Set: N:\CRF3\01232002\J038694.raw

L:18 M:270 C: Current Application Number differs, Replaced Current Application No
L:18 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:170 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11